***1.What are the two values of the Boolean data type? How do you write them?***

***Ans:*** Boolean has only two values i.e., True & False. Keeping capital T & F in the beginning of the word with the rest of the word in lowercase.

***2. What are the three different types of Boolean operators?***

***Ans:***  *and, or,* & *not* (It’s also well known as logical operator)

***3. Make a list of each Boolean operator's truth tables (i.e., every possible combination of Boolean values for the operator and what it evaluates).***

* *True & False with “and” operator*
* True and True is *True*.
* True and False is *False*.
* False and True is *False*.
* False and False is *False*.
* *True & False with “or” operator*
* True or True is *True*.
* True or False is *True*.
* False or True is *True*.
* False or False is *False*.
* *True & False with “not” operator*
* not True is *False*.
* not False is *True*.
* *True & False with “in” operator*
* In is *True*.
* not in is *False*.

***4. What are the values of the following expressions?***

|  |  |
| --- | --- |
| ***(5 > 4) and (3 == 5)***  ***not (5 > 4)***  ***(5 > 4) or (3 == 5)***  ***not ((5 > 4) or (3 == 5))***  ***(True and True) and (True == False)***  ***(not False) or (not True)*** | ***False***  ***False***  ***True***  ***False***  ***False***  ***True*** |

***5. What are the six comparison operators?***

***Ans:***

|  |  |
| --- | --- |
| Greater than  Less than  Equal to  Not Equal to  Greater than equal to  Less than equal to | ‘>’  ‘<’  ‘==’  ‘!=’  >=  <= |

***6. How do you tell the difference between the equal to and assignment operators? Describe a condition and when you would use one.***

***Ans:*** “==” is equal to operator compares two values & evaluates to a Boolean either True or False e.g., 5 == 5 it returns True as both are same.

In contrast, “=” is the assignment operator that stores a value in a variable e.g., i += 1 here we are assigning a value to “i” variable.

***7. Identify the three blocks in this code:***

|  |  |
| --- | --- |
| ***spam = 0***  ***if spam == 10:***  ***print('eggs')***  ***if spam > 5:***  ***print('bacon')***  ***else:***  ***print('ham')***  ***print('spam')***  ***print('spam')*** | *spam = 0*  ***1st block***  *if spam == 10:*  *print('eggs')*  ***2nd block***  *if spam > 5:*  *print('bacon')*  ***3rd block***  *else:*  *print('ham')*  *print('spam')*  *print('spam')* |

***8. Write code that prints Hello if 1 is stored in spam, prints Howdy if 2 is stored in spam, and prints Greetings! if anything else is stored in spam.***

***Ans:*** if spam == 1:

print("Hello")

elif spam == 2:

print("Howdy")

else:

print('Greetings!')

***9.If your programme is stuck in an endless loop, what keys you’ll press?***

***Ans:*** Press CTRL-C to stop a program stuck in an infinite loop

***10. How can you tell the difference between break and continue?***

Break statement terminate or stop the loop as soon as it meets the condition while Continue statement skip that particular condition & move on to continue the execution.

***11. In a for loop, what is the difference between range(10), range(0, 10), and range(0, 10, 1)?***

Range brings the value from a stipulated range & every range has three elements i.e., start, stop, add/skip

|  |  |
| --- | --- |
| range(10)  range(0, 10)  range(0,10,1) | It calls ranges from 0 up to (but not including) 10,  This explicitly tells the loop to start at 0.  It explicitly tells the loop to increase the variable by 1 on each iteration. |

***12. Write a short program that prints the numbers 1 to 10 using a for loop. Then write an equivalent program that prints the numbers 1 to 10 using a while loop.***

|  |  |
| --- | --- |
| ***For Loop***  for i in range(1,11):  print(i) | ***While loop***  i = 0  while i <= 10:  print(i)  i += 1 |

***13. If you had a function named bacon() inside a module named spam, how would you call it after importing spam?***

***Ans:*** That function would be called with “*spam.bacon()*”.